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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,087	02/16/2001	Soon-Sung Yoo	8733.405.00	3235

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EXAMINER

QI, ZHI QIANG

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 11/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/784,087

Applicant(s)

YOO ET AL. 

Examiner

Mike Qi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 6-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

1. The drawings are objected to because the reference numbers of the data pad contact hole "42" in Figs.3D, 3E are not corresponding to the Fig.2 as the reference number of the data pad contact hole is - - 44 - -, and the reference number of the gate pad contact hole "44" in Fig.4 is not corresponding to the Fig.2 as the reference number of the gate pad contact hole is - - 42 - -. Accordingly, the reference numbers of the data pad contact hole in Figs.3D, 3E should be - - 44 - -, and the reference number of the gate pad contact hole in Fig.4 should be - - 42 - -, and the specification also needs to be corrected accordingly. The Fig.5 is a preferred embodiment of the present invention according to the specification page 11, lines 9-10, so that the Fig.5 should not be labeled.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application

Art Unit: 2871

designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by

Applicant admitted prior art.

Claim 1, Applicant admitted prior art discloses (page 1, line 7 – page 8, line 15; Figs.2-4) that a liquid crystal display device comprising:

- substrate (1);
- thin film transistor (TFT) including a gate electrode (26), a source electrode (28), and a drain electrode (30) on the substrate (1);
- pixel electrode (14) electrically connected to the drain electrode (30);
- data line (24) electrically connected with the source electrode (28);
- a gate insulating layer (50) (as a first insulating layer), a pure amorphous silicon layer (52), and a doped amorphous silicon layer (54) sequentially layered under the data line (24);
- data pad (23) at one end of the data line (24);
- gate line (22) electrically connected with the gate electrode (26);
- gate pad electrode (34) at one end of the gate line (22);
- the gate pad electrode (34) is on the gate insulating layer (50) (first insulating layer), and the gate insulating layer includes an opening (42) (see Fig.4) that exposes a portion of the gate line (22), and the gate pad electrode (34) electrically contacts the exposed portion of the gate line (22) (see Fig.2).

Art Unit: 2871

Claim 2, Applicant admitted prior art discloses (page 7, lines 4 – 10) that the pixel electrode (14) is formed of transparent conductive material such as indium tin oxide (ITO).

4. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,163,356 (Song et al).

Claim 1, Song discloses (col.7, line 66 – col.9, line 41; Figs.7-8) that a liquid crystal display device comprising:

- substrate (101);
- thin film transistor (TFT) including a gate electrode (111), a source electrode (121), and a drain electrode (131) on the substrate (101);
- pixel electrode (141) electrically connected to the drain electrode (131);
- data line (123) electrically connected with the source electrode (121);
- gate insulating layer (117) (first insulating layer), a pure amorphous silicon layer (133) and a doped amorphous silicon layer (135) sequentially layered under the data line (123);
- data pad (125) at one end of the data line (123);
- gate line (113) electrically connected with the gate electrode (111);
- ^(portion: 115a, 115b)
gate pad electrode (115) at one end of the gate line (113);
- the gate pad electrode (115) is on the gate insulating layer (117), and the gate insulating layer (117) includes an opening (159) that exposes a portion of the gate line (113), and the gate pad electrode (115) electrically contacts the exposed portion of the gate line (113).

Art Unit: 2871

Claim 2, Song discloses (col.9, lines 23-25) that the pixel electrode (141) is formed of transparent conductive material such as ITO (indium tin oxide).

Allowable Subject Matter

5. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither discloses nor teaches that a liquid crystal display device comprising various elements, more specifically, as the following:

Fig. 6D
the drain electrode has a through hole that exposes a portion of the first insulating layer, and the pixel electrode electrically contact an inner side surface of the drain electrode via the through hole [claim 3];

the data pad contact hole passing through the doped amorphous silicon layer and passing through the amorphous silicon layer, and the data pad electrode electrically contact an inner side surface of the data pad via the data pad contact hole [claim 4];

claim 5 is dependent on the claim 4.

The closest references Applicant admitted prior art and US 6,163,356 (Song et al) discloses a structure of a liquid crystal display device comprising a drain contact hole, a source pad contact hole (data pad contact hole) and a gate

Art Unit: 2871

pad contact hole, but the prior art of record do not disclose the drain contact hole and the data pad (source pad) contact hole passing through the silicon layer (the pure amorphous silicon layer and the doped amorphous silicon layer), wherein the portions of the gate insulating layer are exposed and the pixel electrode or the data pad electrode contact the inner side surface of the drain electrode or the inner side surface of the data pad via the through holes as claimed in the claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (703) 308-6213. The examiner can normally be reached on 349.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Sikes can be reached on (703) 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7721 for regular communications and (703) 308-7721 for After Final communications.

Art Unit: 2871

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Mike Qi
October 1, 2002


TOANTON
PRIMARY EXAMINER